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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,810	07/31/2000	Paul-Wilhelm Braun	7875/0H358	5261

7590  
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805 Third Avenue  
New York, NY 10022

08/19/2003

EXAMINER

KAO, CHIH CHENG G

ART UNIT PAPER NUMBER

2882

DATE MAILED: 08/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/629,810

Applicant(s)

BRAUN

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,5,7-13 and 15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,5,7-13 and 15 is/are rejected.
- 7) ☒ Claim(s) 2,12 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Objections*

1. Claims 5, 12, and 15 are objected to because of the following informalities, which appear to be minor draft errors creating lack of antecedent basis problems: ([claim 5, line 2], “the optical signals”), ([claim 12, line 3], “the code markings”), ([claim 12, line 16], “the sensor signal”), and ([claim 15, line 2], “the optical signals”).

These objections may be obviated by the following suggestions: ([claim 5, line 2], deleting “the”), ([claim 12, line 2], inserting - first and at least one higher-order group of- - after “the”), ([claim 12, line 16], inserting - sensor- - before “signal” in line 4 of claim 12), and ([claim 15, line 2], deleting “the”).

For purposes of examination, the claim will be treated as such. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 7, and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holzapfel et al. (US Patent 6392224) in view of Braun (US Patent 5508088), Shelander (US Patent 4899048), and Jankowski (DE 19805207).

3. With regards to claims 2, 7, and 10-13, Holzapfel et al. discloses a positioning device (title) comprising a device (Fig. 1, #9) having at least one code track of a group with mutually constant spacing (Fig. 1, #8b) with at least one higher-order code marking overlapping therewith (Fig. 1, #8a), wherein the at least one higher-order code track has a different optical density compared to the first group (col. 5, lines 1-5), whereas the code markings of the at least one higher-order group have a arbitrary spacing for controlling different functions from at least one of the purposes of controlling a start position, controlling an end position, calibrating, determining an absolute position (col. 5, lines 10-15), a signal processing device (Fig. 1, #3), a light source (Fig. 1, #4), a light sensitive sensing device (Fig. 1, #6), wherein the code markings have a detectable grading for generating position signals (Fig. 2b and 2a), and wherein the code markings have a predefined difference in optical density levels (col. 5, lines 1-5).

However, Holzapfel et al. does not seem to specifically disclose a “timing” device, a single sensor-emitter unit, the code markings and code track having three different optical densities, and an LED or phototransistor.

Braun teaches a “timing” device (Title), a single sensor-emitter unit (Fig. 1b, #12a and 14a), and code markings have different degrees of reflectivity (Fig. 1b and Fig. 3, #25 and 27). Shelander teaches an LED and phototransistor (Fig. 1, “LED” and “phototransistor”). Jankowski teaches three different optical densities (Figs. 2-4).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have a timing device, single sensor-emitter unit, and reflectivity of Braun with the device of Holzapfel et al., since one would be motivated to have a timing device for

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controlling machine tools, handling equipment or other servo-mechanical elements as suggested by Braun (Abstract, lines 1-2), and since one would be motivated to have a single sensor-emitter unit and reflectivity for a simpler design as implied from Braun (col. 1, lines 53-67).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the LED and phototransistor of Shelander with the device of Holzapfel et al. in view of Braun, since these components are considered conventional in the art as shown by Shelander (Fig. 1, "Prior Art"), and would have been within routine skill for one having ordinary skill in the art to substitute an LED or phototransistor as the light source or light sensitive sensing device. One would be motivated to use an LED or phototransistor to keep the device as small as possible as seen in the figures.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have three different optical densities of Jankowski with the device of Holzapfel et al., since one would be motivated to incorporate this to obtain different bits of information such as moving direction and time sequence as shown by Jankowski (Claim 1).

4. With regards to claims 8 and 9, Holzapfel et al. in view of Braun, Shelander, and Jankowski suggest a device as recited above.

However, Holzapfel et al. does not disclose three different optical densities, which can range between light-blocking and almost complete transparency, which is made of reflecting material.

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Jankowski further teaches three different optical densities, which can range between light-blocking and almost complete transparency (Page 3, lines 4-5), which is made of reflecting material (Page 3, last paragraph).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the three different optical densities of reflecting material with the device of Holzapfel et al. in view of Braun, Shelander, and Jankowski, since one would be motivated to incorporate these type of markings to obtain different bits of information such as moving direction and time sequence as shown by Jankowski (Claim 1).

5. Claims 5 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holzapfel et al. in view of Braun, Shelander, and Jankowski as applied to claim 10, and further in view of Norton et al. (US Patent 6140636).

Holzapfel et al. in view of Braun, Shelander, and Jankowski suggests a device as recited above.

However, Holzapfel et al. does not seem to specifically disclose two-channel or multi-channel evaluation.

Norton et al. teaches two-channel or multi-channel evaluation (col. 3, lines 17-25).

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have the two-channel evaluation of Norton et al. with the device of Holzapfel et al. in view of Braun, Shelander, and Jankowski, since one would be motivated to provide information regarding direction of motion, speed and absolute position, but at a lower cost than a three-channel encoder as shown by Norton et al. (col. 2, lines 45-50).

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*Response to Arguments*

6. Applicant's arguments with respect to claims 2, 5, 7-13, and 15 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (703) 605-5298. The examiner can normally be reached on M - F (9 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (703) 308-4858. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gk  
August 11, 2003



DAVID V. BRUCE  
PRIMARY EXAMINER